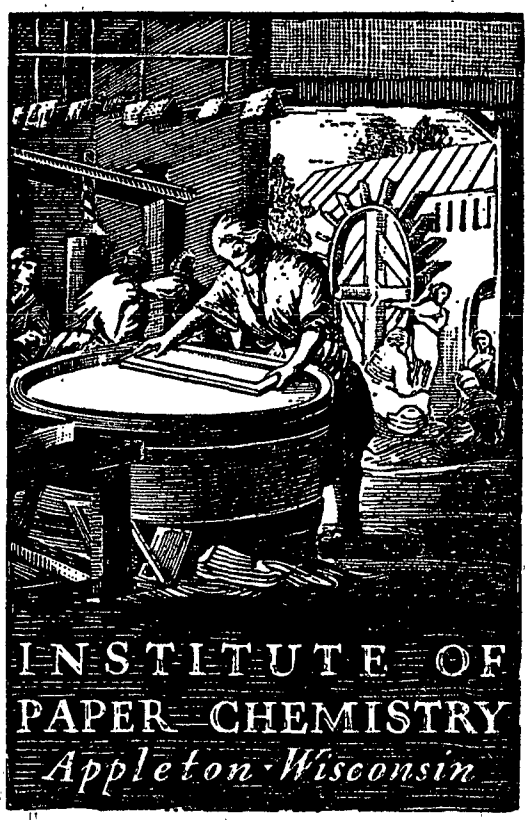

CONTINUOUS EVALUATION OF CORRUGATING MEDIUM

Project 1108-17

Report 119

A Progress Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

June 1, 1966

OK

CODE LETTERS FOR PROJECT 1108-77

Report 119

Company - Mill	Machine No.	Code Letter
The Chesapeake Corporation - West Point	1	--
Container Corporation of America - Circleville	5	AA
Continental Can Company - Hopewell	1	U
- Hodge	1	R
Crown Zellerbach Corporation - Baltimore	1	J
- Baltimore	2	BB
- Bogalusa	4	Y
- Lebanon	2	C
Hoerner Boxes, Inc. - Ontonagon	1	L
International Paper Company - Bastrop	1	K
- Bastrop	2	G
- Georgetown	1	X
The Mead Corporation - Harriman	1	Q
- Knoxville	1	DD
- Lynchburg	2	H
- Sylva	1	T
- Sylva	2	B
Olin Mathieson Chemical Corporation - West Monroe	1	--
- West Monroe	2	--
- West Monroe	3	W
Owens-Illinois, Inc. - Big Island	3	F
- Tomahawk	1	S
- Tomahawk	2	D
- Tomahawk	3	I
Packaging Corporation of America - Filer City	1	M
- Filer City	2	EE
St. Joe Paper Company - Port St. Joe	1	--
St. Regis Container Corporation - Coshocton	1	--
Union Camp Corporation - Savannah	2	CC
Monroe	2	A ←
Waldorf Paper Products Company - St. Paul	5	O
West Virginia Pulp & Paper Company - Covington	6	E
- Covington	7	Z
- Williamsburg	1	P
- Williamsburg	2	V
Weyerhaeuser Company (N.C. Div.) - Plymouth	3	N

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

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THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS EVALUATION OF CORRUGATING MEDIUM

INTRODUCTION

As requested by the Technical Division of the Fourdrinier Kraft Board Institute, Inc., the reports pertinent to the continuous evaluation of corrugating medium have been prepared by The Institute of Paper Chemistry on a bimonthly instead of monthly basis since August 1, 1961. The current report presents results obtained during the months of April and May, 1966, on 186 rolls of corrugating medium representing the production of thirty-one machines. Each of these 186 rolls of corrugating medium was evaluated for basis weight, caliper, Concora flat crush (conditioned after fluting), H. and D. flat crush on single-faced board, and runnability. The evaluation of runnability was initiated by corrugating each roll under standardized conditions on the Institute's corrugator into A-flute board at 600 feet per minute with minimum tension and recording the draw factor at this condition if the roll ran satisfactorily. If unsatisfactory runnability occurred at this speed, the corrugator was slowed down in increments of 25 f.p.m. until satisfactory runnability was obtained, i.e., no ruptured flutes. In this latter case the draw factor was recorded for the highest speed below 600 f.p.m. at which the roll ran satisfactorily. If the medium fabricated satisfactorily at 600 f.p.m. with minimum tension, further runs were made at higher tensions to determine when cracking occurred. The higher tensions used were 0.5, 1.0 and 1.5 lb. per inch. Flat crush was determined on the single-faced board obtained at a speed of 600 f.p.m. with minimum tension. The flat crush results, in addition to supplying information about quality, provide data which may be used by each participant to evaluate the relationship between Concora flat crush and combined board flat crush.

For each participating machine, test data for the current period are shown in Table I and presented graphically in Fig. 1 to 4. A tabulation of the number of rolls and type of medium evaluated is also given in Table I for each machine. The current machine test averages given in Table I are the means for each test property of the averages obtained on all rolls of corrugating medium evaluated from a given machine during the current period. In addition to the current machine test averages, Table I also presents the current F.K.I. averages, cumulative F.K.I. averages, and the F.K.I. indexes. The current F.K.I. average for each test property is the mean of the current machine averages for all machines participating in the study during a given period (excluding the current machine averages based on the evaluation of fewer than three rolls of corrugating medium as requested by the Technical Division). The cumulative F.K.I. average for each test property is the mean of the current F.K.I. averages for the previous twelve-month period excluding the average for the current period. The F.K.I. index for each test property is obtained as follows:

$$\frac{\text{current F.K.I. average}}{\text{cumulative F.K.I. average}} \times 100 = \text{F.K.I. index (\%)}$$

The F.K.I. index for each test property provides a ready means of comparing the current quality with previous results. An index greater than 100% indicates that current quality is higher than the average result for the previous twelve periods; an index below 100% indicates that current quality is lower than the average result for the previous twelve periods.

The test results obtained on the rolls submitted from the production of individual machines during the current period are shown in Tables II through XXXII for Machines A through Z and Machines AA, BB, CC, DD, and EE, respectively. The maximum, minimum and average results obtained on each roll are shown for all test

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TABLE I

SUMMARY OF CURRENT MACHINE AVERAGES

April and May, 1966

Mill Code	No. of Rolls	Type of Medium	Basis Weight, lb.	Caliper, points	Concora Flat Crush, p.s.i.	Single-Face Flat Crush, p.s.i.
A	4	Bogus	28.6	12.0	34.8	30.2
B	8	Semichemical	27.3	10.3	34.7	31.6
C	8	Semichemical	26.5	8.8	33.2	31.1
D	6	Semichemical	26.4	10.2	37.3	34.7
E	1	Semichemical	Note [a]			
F	4	Semichemical	26.7	10.6	34.4	31.7
G	8	Semichemical	27.1	10.1	41.3	38.4
H	10	Semichemical	26.9	11.0	38.9	34.2
I	7	Semichemical	27.0	10.6	37.0	32.1
J	8	Bogus	28.2	9.9	38.4	33.8
K	3	Semichemical	26.5	10.3	40.4	37.2
L	9	Semichemical	27.4	10.9	34.9	31.6
M	9	Semichemical	26.7	9.8	31.2	28.7
N	5	Semichemical	26.7	10.4	39.5	34.9
O	1	Semichemical	Note [a]			
P	6	Semichemical	27.5	10.7	34.6	31.5
Q	6	Semichemical	26.6	10.5	31.2	29.5
R	4	Semichemical	26.8	10.2	36.0	33.8
S	8	Semichemical	27.0	10.3	39.0	34.9
T	8	Semichemical	26.6	10.1	33.5	30.3
U	9	Semichemical	27.3	10.7	35.7	33.6
V	2	Semichemical	Note [a]			
W	4	Semichemical	27.4	10.4	27.7	24.8
X	3	Semichemical	28.8	10.3	41.3	37.0
Y	9	Semichemical	27.2	10.7	36.7	33.3
Z	1	Semichemical	Note [a]			
AA	4	Semichemical	27.7	11.0	33.3	29.9
BB	8	Bogus	27.4	10.3	34.6	32.0
CC	8	Semichemical	27.7	9.1	36.8	32.5
DD	6	Semichemical	26.5	12.2	32.1	29.5
EE	9	Semichemical	26.5	9.6	32.1	29.5
Total	186					
Current F.K.I. average			27.2	10.4	35.6	32.3
Cumulative F.K.I. average			27.0	10.3	35.1	32.1
F.K.I. index, %			100.6	100.7	101.3	100.8

[a] Current machine average has been omitted in compliance with the Technical Division's request that current machine averages based on evaluations of fewer than three rolls of medium should be excluded from the summary table and from the calculation of the current F.K.I. averages.

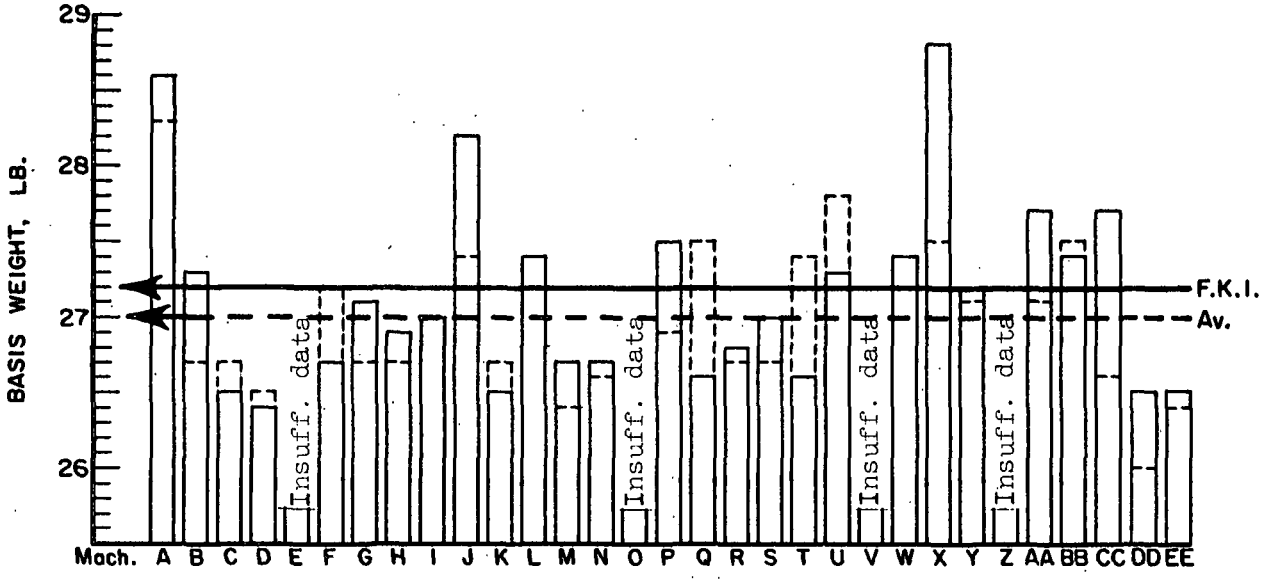

Figure 1. Comparison of Basis Weight Results

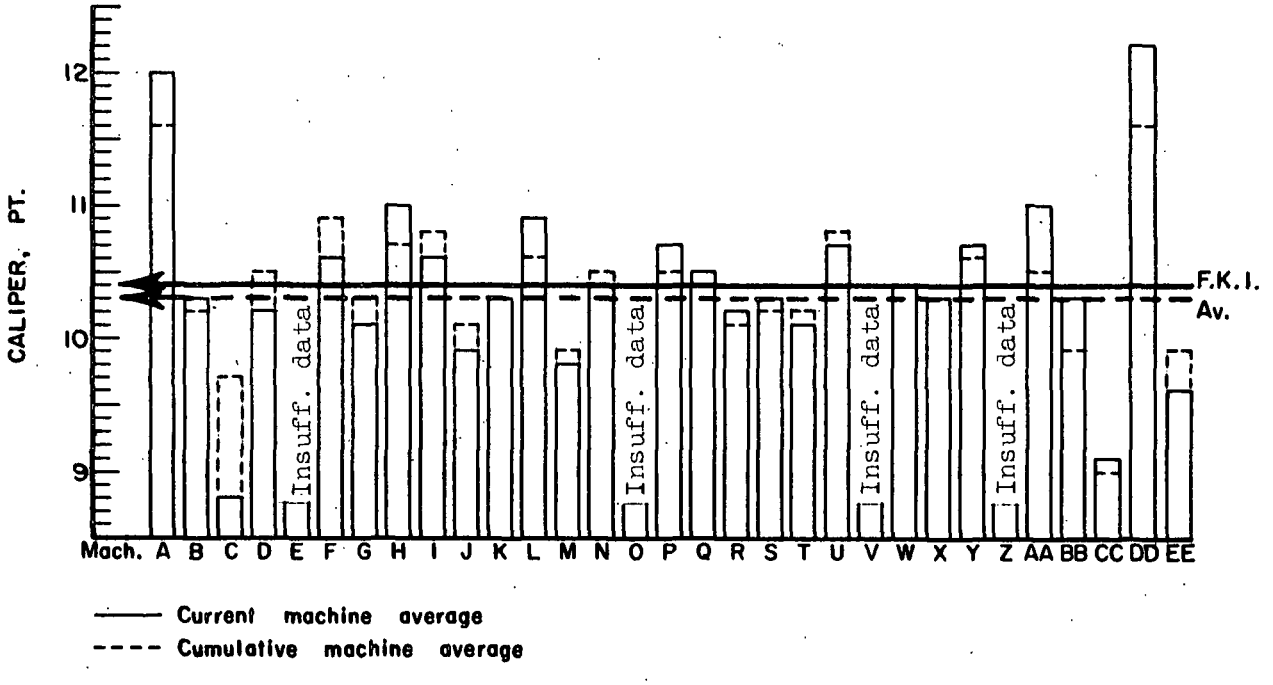

Figure 2. Comparison of Caliper Results

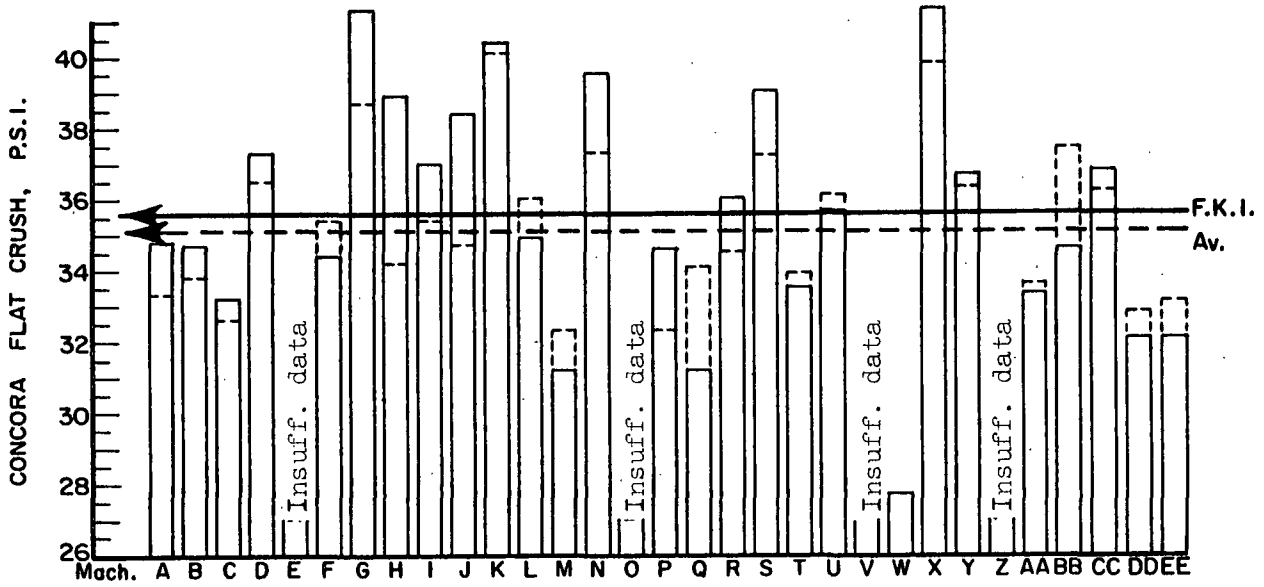

Figure 3. Comparison of Concora Flat Crush Results

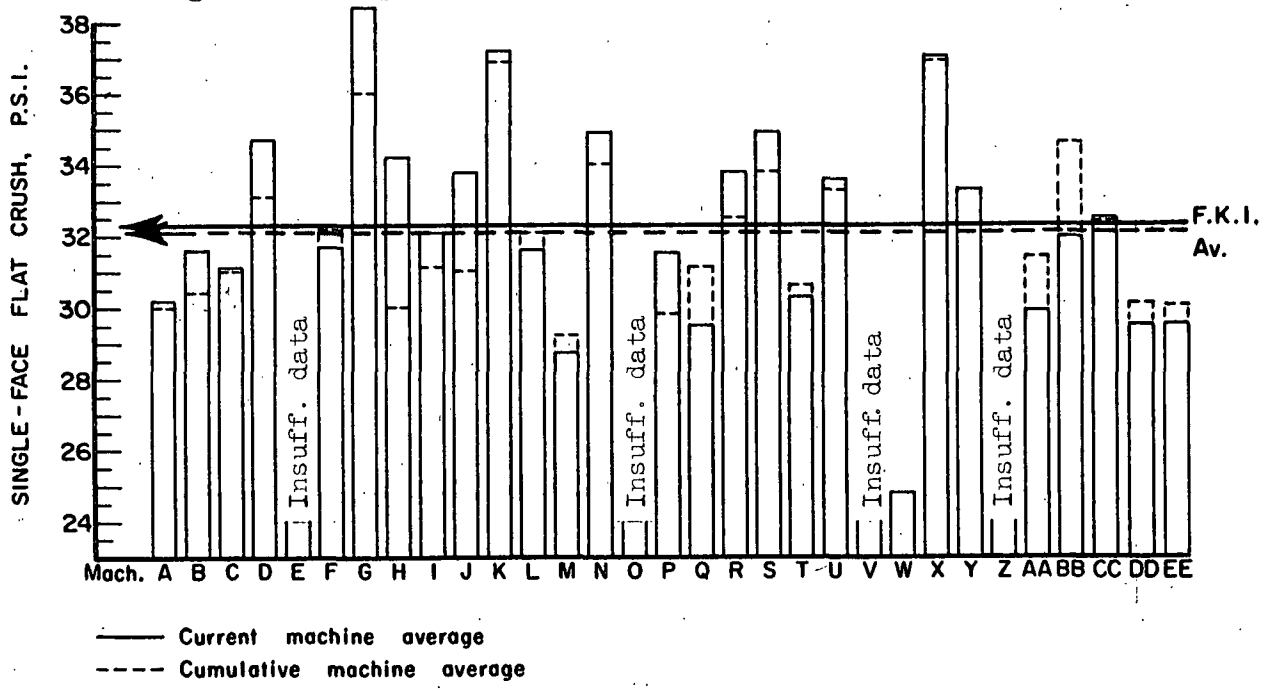

Figure 4. Comparison of Single-Face Flat Crush Results

TABLE II

SUMMARY OF TEST RESULTS FOR MACHINE A
April and May, 1966

(Type of medium: bogus)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt. Max.	Caliper, pt. Min.	Caliper, pt. Av.	Concora Flat Crush, p.s.i. Max.	Concora Flat Crush, p.s.i. Min.	Concora Flat Crush, p.s.i. Av.	Single-Face Flat Crush, p.s.i. Max.	Single-Face Flat Crush, p.s.i. Min.	Single-Face Flat Crush, p.s.i. Av.	Runnability, lb./in.[a]	Runnability, draw factor[b]
A-1	3- 2-66	4-12-66	83	29.2	13.0	11.0	12.2	36.0	32.4	34.3	30.6	28.2	29.6	1-1/2	1.571
A-2	3- 9-66	4-12-66	84	29.1	13.9	11.3	12.4	34.2	30.0	32.0	29.2	25.8	28.1	1-1/2	1.567
A-3	3-12-66	4-12-66	85	28.1	12.0	11.0	11.4	38.4	36.6	37.4	33.0	31.4	32.2	1-1/2	1.568
A-4	3-13-66	4-12-66	86	27.9	12.8	10.5	11.9	37.2	33.6	35.4	32.2	30.0	31.0	1-1/2	1.563
Current machine average				28.6			12.0			34.8			30.2		1.567
Cumulative machine average				28.3			11.6			33.3			30.0		
Machine factor, %				100.9			103.3			104.6			100.7		
Machine index, %				105.8			115.9			99.1			94.3		

TABLE III

SUMMARY OF TEST RESULTS FOR MACHINE B
April and May, 1966

(Type of medium: semichemical)

B-1	3-25-66	4- 1-66	48	27.1	11.0	10.2	10.4	33.6	31.2	32.8	33.2	30.2	31.4	Min.	1.559
B-2	3-30-66	4-11-66	48	27.1	10.5	9.8	10.1	35.4	33.6	34.4	31.6	29.4	30.8	Min.	1.549
B-3	4- 4-66	4-18-66	49	27.2	10.3	10.0	10.1	36.0	32.4	34.4	32.6	29.6	31.0	Min.	1.550
B-4	4-15-66	4-27-66	50	26.3	10.0	9.0	9.6	37.8	31.8	35.5	31.8	29.2	30.1	Note[c]	1.542
B-5	4-20-66	4-28-66	51	27.9	10.8	10.0	10.2	40.8	33.6	36.7	33.6	31.4	32.5	Min.	1.557
B-6	4-27-66	5- 9-66	52	26.8	10.7	10.0	10.3	37.2	34.2	35.3	33.2	30.0	32.1	Note[d]	1.547
B-7	5- 5-66	5-11-66	53	28.4	11.0	10.5	10.9	43.2	33.6	36.7	36.0	33.8	34.5	Min.	1.552
B-8	5-11-66	5-19-66	54	27.5	11.0	10.5	10.8	34.8	27.6	31.9	31.4	29.0	30.1	1	1.564
Current machine average				27.3			10.3			34.7			31.6		1.552
Cumulative machine average				26.7			10.2			33.8			30.4		
Machine factor, %				102.1			101.1			102.6			103.8		
Machine index, %				101.0			100.0			98.8			98.5		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

[c] Maximum speed at which this roll could be corrugated with minimum tension was 550 f.p.m.

[d] Maximum speed at which this roll could be corrugated with minimum tension was 425 f.p.m.

TABLE IV

SUMMARY OF TEST RESULTS FOR MACHINE C
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt. Max.	Caliper, pt. Min.	Caliper, pt. Av.	Concora Flat Crush, p.s.i. Max.	Concora Flat Crush, p.s.i. Min.	Concora Flat Crush, p.s.i. Av.	Single-Face Flat Crush, p.s.i. Max.	Single-Face Flat Crush, p.s.i. Min.	Single-Face Flat Crush, p.s.i. Av.	Runnability, lb./in.[a]	Runnability, draw factor[b]
C-1	4-14-66	5- 9-66	D-1	26.0	9.1	8.8	9.0	34.2	31.2	32.8	32.8	30.6	31.6	1-1/2	1.573
C-2	4-14-66	5- 9-66	D-2	26.3	9.0	8.5	8.8	34.2	29.4	32.2	32.0	29.0	30.5	1-1/2	1.571
C-3	4-14-66	5- 9-66	D-3	26.4	9.0	8.3	8.7	34.8	28.8	31.6	32.8	30.4	31.6	1-1/2	1.573
C-4	4-14-66	5- 9-66	D-4	26.8	9.3	8.8	9.0	34.2	32.4	32.9	31.6	29.4	30.6	1-1/2	1.573
C-5	5- 4-66	5-25-66	E-1	25.7	9.1	8.4	8.9	34.8	30.6	33.5	30.6	28.0	29.2	1-1/2	1.575
C-6	5- 4-66	5-25-66	E-2	26.8	9.0	8.5	8.9	37.8	33.0	34.9	32.0	29.8	31.1	1-1/2	1.573
C-7	5- 4-66	5-25-66	E-3	27.3	9.0	8.3	8.7	38.4	31.8	34.0	34.2	32.6	33.2	1-1/2	1.573
C-8	5- 4-66	5-25-66	E-4	26.5	9.0	8.4	8.9	36.0	32.4	33.5	34.0	29.2	31.3	1-1/2	1.573
Current machine average				26.5			8.8			33.2			31.1		1.573
Cumulative machine average				26.7			9.7			32.6			31.0		
Machine factor, %				99.3			91.5			101.7			100.4		
Machine index, %				98.1			85.6			94.4			97.1		

TABLE V

SUMMARY OF TEST RESULTS FOR MACHINE D
April and May, 1966

(Type of medium: semichemical)

D-1	3-27-66	4-22-66	--	26.0	10.8	10.0	10.2	40.2	36.0	37.7	35.6	34.4	35.3	1/2	1.559
D-2	3-30-66	4-22-66	--	26.3	10.2	9.9	10.0	40.2	37.8	38.9	37.4	35.0	36.4	Min.	1.555
D-3	4- 3-66	4-22-66	--	26.7	10.9	10.2	10.7	37.8	34.8	36.4	35.8	32.4	34.0	Min.	1.559
D-4	4- 3-66	4-22-66	--	26.5	11.1	10.1	10.5	37.8	34.8	36.2	33.4	31.4	32.4	Min.	1.558
D-5	5-13-66	5-18-66	--	26.5	10.1	9.9	10.0	40.8	34.8	37.6	36.8	33.6	35.2	1-1/2	1.567
D-6	5-13-66	5-18-66	--	26.5	10.1	9.9	10.0	38.4	36.0	37.0	35.4	34.0	34.7	1-1/2	1.564
Current machine average				26.4			10.2			37.3			34.7		1.560
Cumulative machine average				26.5			10.5			36.5			33.1		
Machine factor, %				99.9			97.8			102.2			104.9		
Machine index, %				97.9			99.0			106.1			108.2		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

TABLE VI

SUMMARY OF TEST RESULTS FOR MACHINE E
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt. Max.	Caliper, pt. Min.	Caliper, pt. Av.	Concora Flat Crush, p.s.i. Max.	Concora Flat Crush, p.s.i. Min.	Concora Flat Crush, p.s.i. Av.	Single-Face Flat Crush, p.s.i. Max.	Single-Face Flat Crush, p.s.i. Min.	Single-Face Flat Crush, p.s.i. Av.	Runnability, lb./in.[a]	Runnability, draw factor[b]
E-1	3-23-66	4-14-66	37	26.8	10.9	10.2	10.6	37.8	34.2	36.0	32.6	29.6	31.1	1/2	1.560
Current machine average				26.8			10.6			36.0			31.1		1.560
Cumulative machine average				26.7			10.5			34.2			30.9		
Machine factor, %				100.4			100.7			105.4			100.6		
Machine index, %				99.3			102.5			102.5			97.1		

TABLE VII

SUMMARY OF TEST RESULTS FOR MACHINE F
April and May, 1966

(Type of medium: semichemical)

F-1	3-12-66	3-31-66	994	26.3	10.2	9.8	10.0	34.8	31.2	33.5	30.8	29.4	30.0	1-1/2	1.567
F-2	3-13-66	3-31-66	1152	27.1	10.9	10.4	10.7	38.4	31.2	35.0	35.4	31.6	33.2	1/2	1.560
F-3	3-14-66	3-31-66	1264	26.8	11.5	10.2	10.8	36.6	34.2	35.2	32.6	30.2	32.0	1/2	1.560
F-4	3-15-66	3-31-66	1392	26.6	11.0	10.3	10.8	34.8	32.4	34.1	32.8	30.8	31.6	1-1/2	1.569
Current machine average				26.7			10.6			34.4			31.7		1.564
Cumulative machine average				27.2			10.9			35.4			32.2		
Machine factor, %				98.1			97.5			97.3			98.3		
Machine index, %				98.8			102.3			98.0			98.8		

TABLE VIII

SUMMARY OF TEST RESULTS FOR MACHINE G
April and May, 1966

(Type of medium: semichemical)

G-1	3-14-66	3-29-66	444	27.3	10.3	9.4	10.0	45.6	41.4	43.0	43.0	38.6	40.5	1-1/2	1.562
G-2	3-22-66	4-19-66	445	27.0	10.0	9.5	9.8	43.8	40.2	41.8	41.6	38.8	40.3	1	1.565
G-3	3-31-66	4-19-66	446	26.9	10.5	9.8	10.0	42.0	36.6	39.4	38.0	35.4	37.2	1-1/2	1.564
G-4	4-14-66	4-20-66	447	26.9	11.1	9.6	10.2	45.0	40.2	42.1	38.8	37.0	38.0	1	1.560
G-5	4-26-66	5-13-66	448	27.9	11.1	10.0	10.7	43.2	39.6	41.5	38.4	36.6	37.6	1-1/2	1.560
G-6	5- 2-66	5-13-66	450	27.1	11.0	10.0	10.7	43.8	41.4	42.6	37.4	36.2	37.0	1-1/2	1.562
G-7	5- 9-66	5-19-66	451	27.1	10.4	9.1	9.8	41.4	39.0	39.6	39.0	36.6	38.1	1-1/2	1.565
G-8	5-16-66	5-24-66	452	26.8	10.3	9.3	9.9	43.2	39.0	40.6	40.6	38.0	38.9	1-1/2	1.569
Current machine average				27.1			10.1			41.3			38.4		1.563
Cumulative machine average				26.7			10.3			38.7			36.0		
Machine factor, %				101.5			98.2			106.7			106.6		
Machine index, %				100.4			97.9			117.6			119.9		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

TABLE IX

SUMMARY OF TEST RESULTS FOR MACHINE H
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.²	Caliper, pt.			Concora Flat Crush, p.s.i.			Single-Face Flat Crush, p.s.i.			Runnability,	
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	lb./in.[a]	draw factor[b]
H-1	3-20-66	3-29-66	297	27.9	11.8	11.0	11.3	43.8	38.4	41.5	39.2	37.8	38.6	1-1/2	1.566
H-2	3-20-66	3-29-66	298	27.7	12.0	11.0	11.3	42.0	39.0	40.8	38.0	34.8	36.2	1-1/2	1.569
H-3	4- 6-66	4-14-66	305	26.5	11.2	10.5	10.9	43.2	37.2	40.8	35.6	33.4	34.5	1-1/2	1.566
H-4	4- 6-66	4-14-66	306	26.3	11.5	10.2	11.0	39.0	36.6	37.7	34.6	32.0	33.4	1-1/2	1.570
H-5	4-18-66	4-26-66	313	26.0	11.7	10.8	11.2	36.0	32.4	34.4	34.6	31.8	33.2	1-1/2	1.565
H-6	4-18-66	4-26-66	314	26.6	11.8	11.1	11.3	39.6	34.2	37.4	34.4	29.6	32.1	1-1/2	1.566
H-7	5- 5-66	5-11-66	321	27.4	11.5	10.9	11.1	42.0	37.2	39.4	34.0	32.0	33.0	1-1/2	1.564
H-8	5- 5-66	5-11-66	322	27.4	11.1	10.5	10.9	40.8	36.0	38.9	34.6	33.0	33.8	1-1/2	1.569
H-9	5-14-66	5-24-66	329	26.5	11.0	10.1	10.6	41.4	35.4	38.4	35.8	32.0	34.0	1-1/2	1.568
H-10	5-14-66	5-24-66	330	26.8	11.0	10.2	10.6	42.6	37.8	40.1	34.0	31.8	33.4	1-1/2	1.569
Current machine average				26.9			11.0			38.9			34.2		1.567
Cumulative machine average				26.7			10.7			34.2			30.0		
Machine factor, %				100.9			102.9			113.8			114.0		
Machine index, %				99.6			106.5			110.8			106.7		

TABLE X

SUMMARY OF TEST RESULTS FOR MACHINE I
April and May, 1966

(Type of medium: semichemical)

I-1	3-30-66	4-22-66	--	27.2	11.3	10.9	11.1	36.0	31.2	34.3	31.6	29.2	30.9	1/2	1.562
I-2	4-18-66	4-22-66	--	27.3	11.8	11.0	11.3	40.8	39.0	40.0	36.6	34.4	35.5	Min.	1.553
I-3	4-29-66	5-18-66	--	27.6	11.2	11.0	11.1	40.2	35.4	38.2	33.6	30.4	32.3	1/2	1.562
I-4	5-18-66	5-24-66	--	26.6	10.9	10.1	10.5	37.2	32.4	34.9	31.0	29.8	30.4	1-1/2	1.567
I-5	5-19-66	5-24-66	--	26.7	10.1	10.0	10.0	38.4	33.0	36.8	33.0	30.6	31.6	1-1/2	1.567
I-6	5-20-66	5-24-66	--	26.8	10.5	9.8	10.1	40.8	35.4	37.2	34.6	30.0	32.2	1-1/2	1.568
I-7	5-21-66	5-24-66	--	27.0	10.9	10.0	10.4	40.2	34.8	37.9	33.4	30.8	31.9	1-1/2	1.568
Current machine average				27.0			10.6			37.0			32.1		1.564
Cumulative machine average				27.0			10.8			35.4			31.1		
Machine factor, %				100.0			98.5			104.6			103.1		
Machine index, %				100.0			103.0			105.5			100.0		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

TABLE XI

SUMMARY OF TEST RESULTS FOR MACHINE J
April and May, 1966

(Type of medium: bogus)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt.			Concora Flat Crush, p.s.i.			Single-Face Flat Crush, p.s.i.			Runnability,	
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	lb./in.[a]	draw factor[b]
J-1	3-10-66	4-14-66	316	29.2	11.1	9.8	10.1	40.2	34.2	37.4	35.2	33.6	34.8	1-1/2	1.576
J-2	3-18-66	4-14-66	317	27.6	10.0	9.0	9.6	40.2	37.2	38.9	35.2	32.2	33.7	1-1/2	1.571
J-3	3-21-66	4-14-66	318	26.9	10.1	9.0	9.6	40.8	37.2	38.5	31.6	30.6	31.1	1-1/2	1.578
J-4	3-25-66	4-14-66	319	27.8	11.0	9.1	10.0	39.6	34.2	36.5	35.8	32.0	34.0	1-1/2	1.576
J-5	4-20-66	5-19-66	320	28.7	10.1	9.8	10.0	40.2	34.8	37.7	35.0	32.8	33.8	1-1/2	1.575
J-6	4-21-66	5-19-66	321	28.1	10.0	8.8	9.6	47.4	40.2	43.9	37.2	34.6	36.2	1-1/2	1.578
J-7	4-28-66	5-19-66	322	28.5	10.2	9.8	10.0	40.8	34.2	37.8	36.8	32.4	34.4	1-1/2	1.572
J-8	4-28-66	5-19-66	323	28.6	10.5	9.5	10.0	42.0	31.8	36.2	35.0	30.2	32.5	1-1/2	1.570
Current machine average				28.2			9.9			38.4			33.8		1.574
Cumulative machine average				27.4			10.1			34.7			31.0		
Machine factor, %				102.8			97.8			110.5			109.0		
Machine index, %				104.3			95.4			109.2			105.5		

TABLE XII

SUMMARY OF TEST RESULTS FOR MACHINE K
April and May, 1966

(Type of medium: semichemical)

K-1	4-14-66	4-20-66	761	26.8	10.8	9.7	10.4	42.0	39.0	40.0	38.4	35.8	37.1	1/2	1.561
K-2	4-28-66	5-13-66	762	27.1	11.0	10.0	10.3	44.4	40.2	42.4	38.4	36.2	37.2	1-1/2	1.563
K-3	5- 9-66	5-19-66	763	25.7	10.5	9.9	10.0	42.6	34.2	38.9	39.6	35.2	37.4	1-1/2	1.565
Current machine average				26.5			10.3			40.4			37.2		1.563
Cumulative machine average				26.7			10.3			40.1			36.9		
Machine factor, %				99.3			100.0			100.8			100.8		
Machine index, %				98.3			100.0			115.0			116.1		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

TABLE XIII

SUMMARY OF TEST RESULTS FOR MACHINE L
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt.			Concora Flat Crush, p.s.i.			Single-Face Flat Crush, p.s.i.			Runnability,	
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	lb./in.[a]	draw factor[b]
L-1	3-22-66	3-30-66	75	27.4	11.4	10.8	11.2	36.0	33.6	34.7	34.4	30.0	32.1	Min.	1.553
L-2	3-30-66	4- 5-66	76	27.7	11.3	10.9	11.1	37.8	34.2	35.9	33.6	31.6	32.2	1/2	1.556
L-3	4- 9-66	4-18-66	77	27.0	10.2	10.0	10.0	32.4	31.2	32.0	32.0	28.6	30.0	Min.	1.551
L-4	4-11-66	4-18-66	78	27.4	11.0	10.2	10.8	33.6	28.2	31.1	29.0	27.8	28.4	Min.	1.549
L-5	4-18-66	4-22-66	79	26.8	11.4	10.9	11.1	38.4	34.8	36.4	35.4	31.4	33.6	Min.	1.551
L-6	4-25-66	4-29-66	80	26.0	11.0	10.2	10.7	31.8	28.8	30.5	29.4	25.6	27.8	Min.	1.558
L-7	5- 6-66	5-18-66	81	29.0	11.1	10.9	11.0	45.6	40.8	43.3	38.6	35.2	37.4	Note[c]	1.552
L-8	5-12-66	5-18-66	82	28.0	11.1	10.5	10.8	39.0	34.2	37.2	35.4	31.6	33.0	Min.	1.559
L-9	5-16-66	5-18-66	83	27.5	11.2	10.8	11.0	37.8	29.4	33.5	31.8	27.6	29.9	Note[d]	1.557
Current machine average				27.4			10.9			34.9			31.6		1.554
Cumulative machine average				27.4			10.6			36.0			32.1		
Machine factor, %				100.0			102.3			97.2			98.4		
Machine index, %				101.5			104.9			99.5			98.6		

TABLE XIV

SUMMARY OF TEST RESULTS FOR MACHINE M
April and May, 1966

(Type of medium: semichemical)

M-1	3-22-66	3-28-66	209	26.5	10.1	9.7	9.9	31.8	28.2	30.1	29.8	28.8	29.4	1-1/2	1.572
M-2	3-30-66	4- 7-66	210	27.1	11.0	9.8	10.1	34.2	30.6	32.5	31.4	29.6	30.4	1-1/2	1.568
M-3	4-12-66	4-19-66	211	26.3	10.1	10.0	10.0	29.4	28.2	28.7	27.0	24.4	25.9	1-1/2	1.569
M-4	4-22-66	4-27-66	212	26.6	10.1	9.8	10.0	32.4	29.4	31.3	30.4	28.6	29.6	1-1/2	1.573
M-5	4-26-66	5- 2-66	213	26.8	10.3	9.9	10.1	34.8	30.6	32.6	33.2	29.0	30.4	1-1/2	1.567
M-6	5- 2-66	5- 6-66	214	26.5	9.9	9.0	9.5	34.8	31.8	33.1	30.2	28.0	29.0	1-1/2	1.570
M-7	5- 8-66	5-13-66	215	27.0	9.9	9.2	9.6	33.0	27.0	30.7	29.2	26.4	27.6	1-1/2	1.570
M-8	5-15-66	5-19-66	216	26.9	10.0	9.5	9.9	31.2	27.0	28.7	27.2	26.0	26.6	1-1/2	1.571
M-9	5-23-66	5-26-66	217	26.6	9.9	9.0	9.2	35.4	29.4	32.6	30.6	28.0	29.1	1-1/2	1.576
Current machine average				26.7			9.8			31.2			28.7		1.571
Cumulative machine average				26.4			9.9			32.3			29.2		
Machine factor, %				101.1			99.2			96.5			98.2		
Machine index, %				98.9			94.9			88.7			89.4		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

[c] Maximum speed at which this roll could be corrugated with minimum tension was 425 f.p.m.

[d] Maximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

TABLE XV

SUMMARY OF TEST RESULTS FOR MACHINE N
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt. Max.	Caliper, pt. Min.	Caliper, pt. Av.	Concora Flat Crush, p.s.i. Max.	Concora Flat Crush, p.s.i. Min.	Concora Flat Crush, p.s.i. Av.	Single-Face Flat Crush, p.s.i. Max.	Single-Face Flat Crush, p.s.i. Min.	Single-Face Flat Crush, p.s.i. Av.	Runnability, lb./in.[a]	Runnability, draw factor[b]
N-1	3-28-66	4-12-66	4	27.8	11.0	9.7	10.3	44.4	39.6	42.6	38.2	35.4	37.1	Min.	1.556
N-2	4- 4-66	4-12-66	256	26.1	10.8	10.0	10.2	40.2	37.2	38.5	33.8	31.0	32.8	Min.	1.550
N-3	4-14-66	5- 3-66	612	26.0	11.1	10.2	10.8	40.2	34.8	37.9	33.6	30.6	32.2	Min.	1.556
N-4	4-26-66	5-12-66	969	26.9	10.7	10.0	10.3	40.8	36.6	38.0	36.6	33.8	35.2	1-1/2	1.564
N-5	5- 3-66	5-12-66	47	26.8	11.0	10.0	10.6	42.6	38.4	40.3	37.8	35.8	36.9	Note[c]	1.541
Current machine average				26.7			10.4			39.5			34.9		1.553
Cumulative machine average				26.6			10.5			37.3			34.0		
Machine factor, %				100.3			99.6			105.7			102.4		
Machine index, %				99.0			101.0			112.4			108.7		

TABLE XVI

SUMMARY OF TEST RESULTS FOR MACHINE O
April and May, 1966

(Type of medium: semichemical)

O-1	4- 8-66	4-15-66	5681	27.5	10.9	9.8	10.4	31.8	30.6	31.3	30.6	26.6	29.0	1	1.563
Current machine average				27.5			10.4			31.3			29.0		1.563
Cumulative machine average				26.8			10.4			32.8			29.1		
Machine factor, %				102.7			100.0			95.5			99.7		
Machine index, %				101.8			100.3			89.2			90.3		

TABLE XVII

SUMMARY OF TEST RESULTS FOR MACHINE P
April and May, 1966

(Type of medium: semichemical)

P-1	3-10-66	4- 7-66	98	27.1	11.1	10.5	10.8	36.0	31.8	34.1	30.8	29.0	29.7	1/2	1.556
P-2	3-22-66	4- 7-66	99	27.1	11.0	10.2	10.7	36.6	31.2	33.8	32.4	29.6	31.3	1/2	1.555
P-3	3-28-66	4- 7-66	100	27.3	10.6	9.9	10.2	37.2	33.6	35.3	33.2	31.6	32.5	1/2	1.557
P-4	4- 6-66	5-10-66	101	27.4	11.2	10.4	10.9	32.4	32.4	32.4	30.4	27.8	29.5	1/2	1.557
P-5	4-21-66	5-10-66	103	28.1	11.0	10.2	10.7	37.2	33.0	35.8	33.0	32.4	32.8	1/2	1.557
P-6	4-28-66	5-10-66	104	27.9	10.9	10.2	10.6	40.8	34.2	36.4	34.0	31.6	33.2	1	1.559
Current machine average				27.5			10.7			34.6			31.5		1.557
Cumulative machine average				26.9			10.5			32.3			29.8		
Machine factor, %				102.0			101.7			107.2			105.9		
Machine index, %				101.8			103.1			98.5			98.3		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

[c] Maximum speed at which this roll could be corrugated with minimum tension was 450 f.p.m.

TABLE XVIII

SUMMARY OF TEST RESULTS FOR MACHINE Q
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt.			Concora Flat Crush, p.s.i.			Single-Face Flat Crush, p.s.i.			Runnability,	
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	lb./in.[a]	draw factor[b]
Q-1	3-17-66	3-28-66	1524	27.6	11.7	11.0	11.4	34.8	25.2	31.3	32.6	30.0	31.2	Min.	1.549
Q-2	3-17-66	3-28-66	1525	27.2	11.3	10.2	10.7	33.6	28.2	30.2	31.4	28.4	30.0	Min.	1.553
Q-3	4-12-66	4-20-66	1540	25.8	10.5	8.6	9.7	33.6	28.8	31.4	30.6	29.4	29.9	Note[c]	1.538
Q-4	4-12-66	4-20-66	1541	25.9	10.6	9.2	9.9	33.6	28.2	31.4	31.2	28.8	29.6	Note[d]	1.544
Q-5	5- 5-66	5-17-66	1548	26.7	11.0	10.2	10.7	36.6	28.2	32.8	29.4	26.2	28.0	Note[e]	1.547
Q-6	5- 5-66	5-17-66	1549	26.5	10.9	10.0	10.5	31.2	28.2	30.1	30.0	26.6	28.4	Note[f]	1.542
Current machine average				26.6			10.5			31.2			29.5		1.546
Cumulative machine average				27.5			10.5			34.1			31.1		
Machine factor, %				96.6			100.0			91.7			95.0		
Machine index, %				98.5			101.3			88.9			92.1		

TABLE XIX

SUMMARY OF TEST RESULTS FOR MACHINE R
April and May, 1966

(Type of medium: semichemical)

R-1	5- 9-66	5-19-66	159	26.2	10.2	9.9	10.0	37.8	32.4	35.3	32.6	31.4	32.0	1	1.554
R-2	5- 9-66	5-19-66	160	27.1	11.0	9.8	10.5	37.2	34.8	35.8	36.4	32.4	34.5	1	1.558
R-3	5- 9-66	5-19-66	161	26.9	11.0	10.0	10.3	38.4	34.2	36.6	35.4	33.6	34.5	1-1/2	1.566
R-4	5- 9-66	5-19-66	162	27.1	10.5	9.9	10.1	38.4	34.2	36.4	34.6	32.8	34.0	1-1/2	1.565
Current machine average				26.8			10.2			36.0			33.8		1.561
Cumulative machine average				26.7			10.1			34.5			32.5		
Machine factor, %				100.5			101.6			104.5			103.8		
Machine index, %				99.4			98.9			102.5			105.3		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

[c] Maximum speed at which this roll could be corrugated with minimum tension was 525 f.p.m.

[d] Maximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

[e] Maximum speed at which this roll could be corrugated with minimum tension was 450 f.p.m.

[f] Maximum speed at which this roll could be corrugated with minimum tension was 400 f.p.m.

TABLE XX

SUMMARY OF TEST RESULTS FOR MACHINE S
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt. Max.	Caliper, pt. Min.	Caliper, pt. Av.	Concora Flat Crush, p.s.i. Max.	Concora Flat Crush, p.s.i. Min.	Concora Flat Crush, p.s.i. Av.	Single-Face Flat Crush, p.s.i. Max.	Single-Face Flat Crush, p.s.i. Min.	Single-Face Flat Crush, p.s.i. Av.	Runnability, lb./in.[a]	Runnability, draw factor[b]
S-1	3-27-66	4-22-66	--	26.6	11.9	10.8	11.0	40.8	34.8	37.3	33.2	31.8	32.7	1	1.565
S-2	3-30-66	4-22-66	--	26.3	10.8	10.3	10.6	39.0	35.4	37.2	36.4	33.4	35.0	1	1.561
S-3	4- 3-66	4-22-66	--	27.1	10.9	10.2	10.5	42.0	36.0	39.2	36.4	34.4	35.2	1-1/2	1.567
S-4	4- 3-66	4-22-66	--	27.0	11.2	10.1	10.4	40.8	39.0	40.1	36.6	34.0	35.4	1-1/2	1.566
S-5	5- 9-66	5-18-66	--	27.4	10.1	10.0	10.0	43.2	37.2	40.4	36.2	34.2	35.4	1-1/2	1.564
S-6	5- 9-66	5-18-66	--	27.2	10.0	10.0	10.0	41.4	38.4	40.2	36.8	34.6	35.6	1-1/2	1.565
S-7	5-11-66	5-18-66	--	27.1	10.0	9.8	10.0	42.0	35.4	38.9	36.4	35.0	35.8	1-1/2	1.567
S-8	5-11-66	5-18-66	--	27.1	10.1	9.8	10.0	41.4	36.6	39.0	36.0	32.2	33.7	1-1/2	1.564
Current machine average				27.0			10.3			39.0			34.9		1.565
Cumulative machine average				26.7			10.2			37.2			33.8		
Machine factor, %				101.0			101.1			105.0			103.2		
Machine index, %				99.9			100.0			111.1			108.7		

TABLE XXI

SUMMARY OF TEST RESULTS FOR MACHINE T
April and May, 1966

(Type of medium: semichemical)

T-1	3-25-66	4- 1-66	57	26.1	10.9	10.0	10.3	31.2	29.4	30.2	28.8	25.6	27.4	Min.	1.555
T-2	4- 1-66	4-11-66	57	27.1	10.3	9.0	9.9	35.4	31.2	33.7	32.2	30.6	31.7	Min.	1.560
T-3	4- 7-66	4-18-66	58	26.9	10.1	9.8	10.0	36.6	34.2	35.5	34.6	31.2	32.9	1/2	1.557
T-4	4-12-66	4-27-66	59	26.0	11.1	10.1	10.5	40.8	30.6	34.0	32.2	27.4	29.4	Min.	1.559
T-5	4-20-66	4-28-66	60	27.1	10.1	9.1	9.9	35.4	31.8	34.3	33.6	29.2	31.1	1-1/2	1.565
T-6	4-27-66	5- 9-66	61	27.2	10.7	10.0	10.3	38.4	33.0	35.2	32.4	31.8	32.2	Note[c]	1.546
T-7	5- 5-66	5-11-66	62	26.4	10.4	10.0	10.1	35.4	29.4	32.5	32.6	26.2	29.1	Note[c]	1.547
T-8	5-11-66	5-19-66	63	26.3	10.0	9.0	9.6	35.4	30.0	32.5	29.6	27.4	28.5	1-1/2	1.570
Current machine average				26.6			10.1			33.5			30.3		1.557
Cumulative machine average				27.4			10.2			33.9			30.6		
Machine factor, %				97.0			98.4			98.7			99.0		
Machine index, %				98.6			97.4			95.3			94.4		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

[c] Maximum speed at which this roll could be corrugated with minimum tension was 550 f.p.m.

TABLE XXII

SUMMARY OF TEST RESULTS FOR MACHINE U
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt. Max.	Caliper, pt. Min.	Caliper, pt. Av.	Concora Flat Crush, p.s.i. Max.	Concora Flat Crush, p.s.i. Min.	Concora Flat Crush, p.s.i. Av.	Single-Face Flat Crush, p.s.i. Max.	Single-Face Flat Crush, p.s.i. Min.	Single-Face Flat Crush, p.s.i. Av.	Runnability, lb./in.[a]	Runnability, draw factor[b]
U-1	3-12-66	4-19-66	546	26.5	10.3	10.0	10.1	37.2	32.4	34.3	33.6	31.8	32.7	1	1.561
U-2	3-19-66	4-19-66	547	27.5	11.0	10.1	10.6	41.4	37.8	39.0	37.0	34.6	36.1	1/2	1.556
U-3	3-26-66	4-19-66	548	27.5	11.1	10.3	10.9	39.0	34.8	36.7	36.8	34.0	35.4	1/2	1.553
U-4	4- 5-66	5-17-66	549	27.1	10.5	10.0	10.2	39.0	34.2	36.2	35.0	32.0	33.5	1	1.564
U-5	4-13-66	5-17-66	550	27.8	11.0	10.0	10.7	37.2	33.0	34.9	32.8	30.2	31.7	1	1.561
U-6	4-22-66	5-17-66	551	26.0	11.0	10.5	10.9	35.4	33.0	34.4	34.0	31.2	32.2	1	1.557
U-7	4-29-66	5-24-66	552	27.9	11.2	10.8	11.0	37.8	36.0	36.6	35.6	32.0	34.2	1-1/2	1.566
U-8	5- 6-66	5-24-66	553	27.8	11.2	10.8	11.0	36.0	31.8	33.8	35.4	31.4	33.2	1-1/2	1.560
U-9	5-13-66	5-24-66	554	28.1	11.1	10.2	10.9	39.0	32.4	35.6	33.6	32.6	33.1	1-1/2	1.563
Current machine average				27.3			10.7			35.7			33.6		1.560
Cumulative machine average				27.8			10.8			36.1			33.3		
Machine factor, %				98.5			99.2			98.9			100.7		
Machine index, %				101.3			103.3			101.8			104.7		

TABLE XXIII

SUMMARY OF TEST RESULTS FOR MACHINE V
April and May, 1966

(Type of medium: semichemical)

V-1	3- 9-66	4- 7-66	97	26.3	12.3	10.0	11.0	33.6	31.2	32.4	31.6	29.0	30.2	1/2	1.555
V-2	4-12-66	5-10-66	102	26.5	11.0	10.0	10.5	33.6	30.0	32.3	31.2	29.4	30.0	1/2	1.556
Current machine average				26.4			10.8			32.3			30.1		1.556
Cumulative machine average				27.3			11.6			32.8			29.5		
Machine factor, %				96.7			93.1			98.5			102.0		
Machine index, %				97.7			104.2			92.1			93.8		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

TABLE XXIV

SUMMARY OF TEST RESULTS FOR MACHINE W
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt. Max.	Caliper, pt. Min.	Caliper, pt. Av.	Concora Flat Crush, p.s.i. Max.	Concora Flat Crush, p.s.i. Min.	Concora Flat Crush, p.s.i. Av.	Single-Face Flat Crush, p.s.i. Max.	Single-Face Flat Crush, p.s.i. Min.	Single-Face Flat Crush, p.s.i. Av.	Runnability, lb./in.[a]	Runnability, draw factor[b]
W-1	3- 9-66	3-28-66	1	27.3	10.2	10.0	10.0	31.2	27.6	28.8	28.6	26.0	27.6	1	1.563
W-2	3- 9-66	3-28-66	2	27.3	10.2	9.8	10.1	27.6	25.2	25.9	25.2	24.2	24.5	1	1.565
W-3	5- 3-66	5-12-66	3	28.1	11.5	10.9	11.1	28.8	25.8	26.8	25.0	21.8	22.8	1/2	1.567
W-4	5- 4-66	5-12-66	4	26.8	10.9	10.0	10.2	30.6	28.2	29.4	25.2	23.6	24.4	1/2	1.570
Current machine average				27.4			10.4			27.7			24.8		1.566
Cumulative machine average				--			--			--			--		
Machine factor, %				--			--			--			--		
Machine index, %				101.4			100.2			78.9			77.4		

TABLE XXV

SUMMARY OF TEST RESULTS FOR MACHINE X
April and May, 1966

(Type of medium: semichemical)

X-1	1-16-66	3-31-66	622	28.6	10.8	10.1	10.2	42.6	38.4	41.2	38.4	34.6	37.0	Min.	1.550
X-2	1-27-66	3-31-66	623	28.8	10.7	10.1	10.3	42.6	36.0	40.0	37.8	34.4	36.4	1/2	1.555
X-3	3-16-66	5-13-66	624	29.0	10.7	10.1	10.3	46.2	39.6	42.7	39.2	36.0	37.6	1/2	1.546
Current machine average				28.8			10.3			41.3			37.0		1.550
Cumulative machine average				27.5			10.3			39.8			36.9		
Machine factor, %				104.6			100.0			103.6			100.4		
Machine index, %				106.7			100.0			117.5			115.4		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

TABLE XXVI

SUMMARY OF TEST RESULTS FOR MACHINE Y
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft.^{2}	Caliper, pt. Max.	Caliper, pt. Min.	Caliper, pt. Av.	Concora Flat Crush, p.s.i. Max.	Concora Flat Crush, p.s.i. Min.	Concora Flat Crush, p.s.i. Av.	Single-Face Flat Crush, p.s.i. Max.	Single-Face Flat Crush, p.s.i. Min.	Single-Face Flat Crush, p.s.i. Av.	Runnability, lb./in.[a]	Runnability, draw factor[b]
Y-1	3-17-66	4-11-66	10	27.6	11.5	10.2	10.8	37.2	34.2	36.2	34.4	32.4	33.2	1	1.563
Y-2	3-20-66	4-11-66	11	27.2	11.0	10.1	10.4	39.6	36.0	38.3	37.4	32.2	34.6	1	1.569
Y-3	3-27-66	4-11-66	12	26.9	11.2	10.1	10.8	36.6	33.0	35.4	35.0	33.2	34.0	1/2[c]	1.563
Y-4	4- 5-66	4-29-66	13	28.1	11.2	10.7	10.9	40.8	37.2	39.2	34.6	31.2	32.7	Note[d]	1.547
Y-5	4-14-66	4-29-66	14	26.8	11.8	10.0	10.8	40.2	33.0	37.7	35.2	33.2	34.2	Note[d]	1.547
Y-6	4-18-66	4-29-66	15	26.8	11.1	10.0	10.8	38.4	32.4	35.4	35.4	31.0	33.8	1/2	1.553
Y-7	4-24-66	5-17-66	16	26.9	11.0	10.0	10.4	40.8	36.0	38.9	36.0	32.2	34.7	1-1/2	1.562
Y-8	5- 5-66	5-17-66	17	27.4	11.0	10.1	10.6	36.6	31.8	35.2	32.2	30.2	31.4	1-1/2[d]	1.558
Y-9	5-11-66	5-20-66	18	27.6	11.1	10.8	11.0	37.8	30.0	33.7	32.0	29.4	31.0	Note[d]	1.542
Current machine average				27.2			10.7			36.7			33.3		1.556
Cumulative machine average				27.1			10.6			36.3			33.3		
Machine factor, %				100.7			100.8			101.1			100.0		
Machine index, %				100.9			103.7			104.4			103.8		

TABLE XXVII

SUMMARY OF TEST RESULTS FOR MACHINE Z
April and May, 1966

(Type of medium: semichemical)

Z-1	3-12-66	4-14-66	2	26.4	10.0	9.8	10.0	34.8	31.2	33.4	31.0	29.4	30.2	1-1/2	1.564
Current machine average				26.4			10.0			33.4			30.2		1.564
Cumulative machine average				--			--			--			--		
Machine factor, %				--			--			--			--		
Machine index, %				97.7			96.2			95.0			94.3		

TABLE XXVIII

SUMMARY OF TEST RESULTS FOR MACHINE AA
April and May, 1966

(Type of medium: semichemical)

AA-1	4-27-66	5-10-66	129	27.6	11.3	10.9	11.0	33.6	30.0	32.5	30.4	28.8	29.6	Min.	1.561
AA-2	4-27-66	5-10-66	130	27.6	11.5	10.9	11.1	35.4	29.4	32.8	31.6	29.0	30.8	Min.	1.562
AA-3	4-27-66	5-10-66	131	27.8	11.1	10.8	11.0	34.8	32.4	33.5	29.8	29.2	29.4	1/2	1.562
AA-4	4-27-66	5-10-66	132	27.9	11.0	10.7	10.9	36.0	31.8	34.4	31.6	28.4	29.9	Min.	1.558
Current machine average				27.7			11.0			33.3			29.9		1.561
Cumulative machine average				27.1			10.5			33.6			31.4		
Machine factor, %				102.4			105.3			99.2			95.5		
Machine index, %				102.6			106.6			94.8			93.4		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

[c] Maximum speed at which this roll could be corrugated with minimum tension was 550 f.p.m.

[d] Maximum speed at which this roll could be corrugated with minimum tension was 525 f.p.m.

TABLE XXIX

SUMMARY OF TEST RESULTS FOR MACHINE BB
April and May, 1966

(Type of medium: bogus)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft^2	Caliper, pt. Max.	Caliper, pt. Min.	Caliper, pt. Av.	Concora Flat Crush, p.s.i. Max.	Concora Flat Crush, p.s.i. Min.	Concora Flat Crush, p.s.i. Av.	Single-Face Flat Crush, p.s.i. Max.	Single-Face Flat Crush, p.s.i. Min.	Single-Face Flat Crush, p.s.i. Av.	Runnability, lb./in.[a]	Runnability, draw factor[b]
BB-1	3-10-66	4-18-66	416	27.6	10.3	9.3	9.9	40.2	34.2	37.4	37.0	33.6	35.2	1-1/2	1.560
BB-2	3-14-66	4-14-66	417	27.4	11.0	10.0	10.5	37.2	33.6	35.6	34.6	30.8	32.8	1-1/2	1.561
BB-3	3-15-66	4-14-66	418	27.5	10.5	9.8	10.0	40.8	34.2	36.0	36.6	30.8	33.6	1-1/2	1.554
BB-4	3-25-66	4-14-66	419	28.2	11.0	10.5	10.9	33.0	29.4	31.2	30.8	29.4	29.9	1/2	1.548
BB-5	4-12-66	5-19-66	420	27.0	10.8	9.0	9.9	36.0	31.8	34.2	31.2	30.2	30.8	1-1/2	1.553
BB-6	4-15-66	5-19-66	421	26.6	10.0	9.1	9.8	37.8	31.8	35.9	33.6	32.0	32.6	1-1/2	1.552
BB-7	4-20-66	5-19-66	422	26.8	10.2	9.8	10.0	36.0	32.4	34.1	33.8	30.8	32.7	1-1/2	1.559
BB-8	5- 2-66	5-19-66	423	28.2	11.2	10.9	11.0	35.4	31.2	32.5	29.6	27.2	28.8	1-1/2	1.551
Current machine average				27.4			10.3			34.6			32.0		1.555
Cumulative machine average				27.5			9.9			37.4			34.6		
Machine factor, %				99.6			103.6			92.5			92.5		
Machine index, %				101.5			99.1			98.5			99.9		

TABLE XXX

SUMMARY OF TEST RESULTS FOR MACHINE CC
April and May, 1966

(Type of medium: semichemical)

CC-1	3-21-66	3-28-66	680	27.2	9.4	8.8	9.1	37.8	32.4	34.6	30.6	27.8	29.3	1-1/2	1.573
CC-2	3-31-66	4-11-66	681	26.7	9.0	8.8	8.9	37.2	33.6	35.5	31.0	28.8	30.1	1-1/2	1.568
CC-3	4- 4-66	4-13-66	682	27.4	9.2	8.9	9.0	37.8	35.4	36.5	32.6	29.4	31.0	1-1/2	1.569
CC-4	4-12-66	4-19-66	683	26.8	9.0	8.5	8.8	40.8	35.4	37.7	33.2	31.0	32.3	1/2	1.565
CC-5	4-20-66	4-28-66	684	28.1	10.0	8.9	9.4	39.6	37.2	38.2	35.0	33.2	34.2	1-1/2	1.566
CC-6	4-29-66	5- 9-66	685	27.4	9.4	8.7	9.0	40.2	34.2	37.6	35.2	33.0	34.3	1-1/2	1.568
CC-7	5-12-66	5-23-66	686	28.9	9.9	9.0	9.4	38.4	34.2	35.9	36.2	32.4	34.6	1-1/2	1.566
CC-8	5-19-66	5-26-66	687	28.7	10.0	9.1	9.5	42.0	36.0	38.3	36.4	32.2	34.4	1-1/2	1.561
Current machine average				27.7			9.1			36.8			32.5		1.567
Cumulative machine average				26.6			9.0			36.2			32.4		
Machine factor, %				103.9			101.6			101.4			100.5		
Machine index, %				102.4			88.4			104.7			101.4		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

TABLE XXXI

SUMMARY OF TEST RESULTS FOR MACHINE DD
April and May, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Roll No.	Basis Weight, lb./M ft^2	Caliper, pt. Max.	Min.	Av.	Concora Flat Crush, p.s.i. Max.	Min.	Av.	Single-Face Flat Crush, p.s.i. Max.	Min.	Av.	Runnability, lb./in.[a]	draw factor[b]
DD-1	3-21-66	3-28-66	303	26.8	12.4	11.7	12.0	34.2	31.2	32.8	33.6	31.4	32.4	1-1/2	1.567
DD-2	3-21-66	3-28-66	304	27.4	12.9	11.9	12.3	33.0	31.2	32.3	32.4	30.0	31.1	1-1/2	1.562
DD-3	4- 8-66	4-18-66	311	26.0	13.0	12.0	12.4	36.0	31.2	34.1	30.2	25.8	28.5	1-1/2	1.560
DD-4	4- 8-66	4-18-66	312	26.0	13.3	11.9	12.4	37.2	31.8	33.7	30.0	28.0	28.8	1-1/2	1.560
DD-5	4-22-66	5- 2-66	319	26.3	13.0	11.2	12.0	32.4	28.2	29.9	28.4	26.8	27.9	1/2	1.558
DD-6	4-22-66	5- 2-66	320	26.6	13.1	11.3	12.3	31.8	28.8	30.0	28.6	27.6	28.2	Min.	1.556
Current machine average				26.5			12.2			32.1			29.5		1.560
Cumulative machine average				26.0			11.6			32.8			30.1		
Machine factor, %				102.1			105.1			97.8			98.0		
Machine index, %				98.1			118.3			91.4			91.9		

TABLE XXXII

SUMMARY OF TEST RESULTS FOR MACHINE EE
April and May, 1966

(Type of medium: semichemical)

EE-1	3-22-66	3-28-66	209	25.7	10.0	9.3	9.8	30.0	27.6	28.4	28.6	24.6	26.2	1-1/2	1.571
EE-2	3-31-66	4- 7-66	210	27.1	10.3	9.9	10.1	34.2	31.8	32.9	32.6	30.0	31.0	1-1/2	1.564
EE-3	4-11-66	4-22-66	211	29.0	10.3	9.0	9.7	38.4	33.0	35.8	32.8	30.4	31.4	1-1/2	1.578
EE-4	4-22-66	4-27-66	212	26.5	9.8	9.2	9.6	31.8	30.0	30.7	30.6	28.6	29.9	1-1/2	1.570
EE-5	4-26-66	5- 2-66	213	25.2	9.8	8.1	9.1	34.2	28.8	30.8	32.0	28.0	29.8	1-1/2	1.573
EE-6	5- 2-66	5- 6-66	214	25.7	10.0	9.0	9.4	32.4	30.6	31.6	29.2	27.6	28.2	1-1/2	1.569
EE-7	5- 7-66	5-13-66	215	26.3	10.1	8.9	9.7	40.2	30.6	33.7	31.4	27.8	29.3	1-1/2	1.568
EE-8	5-13-66	5-19-66	216	26.5	10.8	9.1	10.0	32.4	28.2	30.4	29.6	27.4	28.4	1-1/2	1.572
EE-9	5-22-66	5-26-66	217	26.6	9.5	8.9	9.1	36.0	33.0	34.8	32.4	31.0	31.6	1-1/2	1.575
Current machine average				26.5			9.6			32.1			29.5		1.571
Cumulative machine average				26.4			9.9			33.1			30.0		
Machine factor, %				100.3			96.9			97.1			98.6		
Machine index, %				98.1			92.9			91.4			92.1		

[a] Maximum tension at 600 f.p.m.

[b] 600 f.p.m., minimum tension.

properties except basis weight for which only the average is shown; in addition, the overall average result for all rolls submitted for a given machine is shown for each test property. The latter overall averages are reported as "current machine averages." A cumulative machine average for each test property is also shown and represents the mean of the current machine averages for the previous twelve periods (excluding the current period). Also shown for each machine and for each test property in Tables II to XXXII are the machine factor and machine index which are defined as follows:

$$\frac{\text{current machine average}}{\text{cumulative machine average}} \times 100 = \text{machine factor (\%)}$$

$$\frac{\text{current machine average}}{\text{cumulative F.K.I. average}} \times 100 = \text{machine index (\%)}$$

The machine factor and machine index provide a means for comparing the current machine average for each test property with either the previous results for the particular machine or with the cumulative results for all machines, i.e., the cumulative F.K.I. average.

DISCUSSION OF RESULTS

Shown below from Table I are the maximum and minimum current machine averages noted for each test property during the current period (April and May, 1966). Also shown below for each test property is the current F.K.I. average which represents the mean of the current machine averages for the current period and, hence, is indicative of the test level being maintained by the industry as a whole to the extent that the industry is represented by the participating machines. Also given below for each test property is the cumulative F.K.I. average which represents the mean of the current F.K.I. averages for the previous twelve months.

	Max. Current Machine Av.	Min. Current Machine Av.	Current F.K.I. Average	Cumulative F.K.I. Average
Basis wt., lb.	28.8	26.4	27.2	27.0
Caliper, pt.	12.2	8.8	10.4	10.3
Concora flat crush, p.s.i.	41.3	27.7	35.6	35.1
Single-face flat crush, p.s.i.	38.4	24.8	32.3	32.1

The runnability data for the 186 rolls evaluated during the current period are summarized as follows:

Runnability	Number of Rolls	Percentage of Total Rolls	Cumulative Percentage
Less than 600 f.p.m. with minimum tension	14	7.5	100.0
600 f.p.m. – minimum tension	28	15.1	92.5
600 f.p.m. – 1/2 lb. per in. tension	28	15.1	77.4
600 f.p.m. – 1 lb. per in. tension	17	9.1	62.3
600 f.p.m. – 1-1/2 lb. per in. tension	99	53.2	53.2

Supplementary to the runnability data described above, draw factors were determined for each roll of medium at 600 f.p.m. with minimum tension (or, for rolls with poor runnability, at the maximum speed runnable with minimum tension) and are given in Tables II through XXXII for Machines A to Z and Machines AA, BB, CC, DD, and EE, respectively.

In Table XXXIII a comparison of Institute and mill Concora flat crush test results obtained on conditioned specimens is given for each machine for the current period. The inclusion of these comparisons is made possible by the fact that interested participants submit their Concora flat crush test results to The Institute of Paper Chemistry (on data sheets obtainable from the Institute). This affords each participant the opportunity to review the level of agreement noted for his data with the levels noted for the other participants. Comparisons of this kind are a helpful adjunct to other calibration procedures. Shown in Table XXXIII are (1) the Institute and mill Concora averages for each roll included in these comparisons, (2) the difference between the roll average based on Institute data and that based on mill data, (3) the Institute and mill averages based on all rolls included in the comparison, and (4) the difference between these overall averages.

The Concora flat crush data shown in Table XXXIII are summarized in Part I of Table XXXIV where for each machine the following information is given: (1) Current machine average based on Institute data, (2) current machine average based on mill data, (3) the average differences – that is, the difference between the current machine average based on Institute data and that based on mill data, and (4) the maximum difference encountered in comparing Institute and mill test averages for individual rolls. In Part II of Table XXXIV the average differences given in Part I have been converted to percent. Comparative data from the previous two reports are also included in Part II of Table XXXIV.

TABLE XXXIII

INSTITUTE AND MILL CONCORA FLAT CRUSH TEST RESULTS ON INDIVIDUAL ROLLS FOR APRIL AND MAY, 1966

Machine A						Machine B						Machine C					
			Concora Flat Crush, p.s.i.						Concora Flat Crush, p.s.i.						Concora Flat Crush, p.s.i.		
Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]	Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]	Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]
A-1	83	3- 2-66	34.3	34.8	+0.5	B-1	48	3-25-66	32.8	35.6	+2.8	C-1	D-1	4-14-66	32.8	32.2	-0.6
A-2	84	3- 9-66	32.0	31.3	-0.7	B-2	48	3-30-66	34.4	36.6	+2.2	C-2	D-2	4-14-66	32.2	32.0	-0.2
A-3	85	3-12-66	37.4	37.9	+0.5	B-3	49	4- 4-66	34.4	36.1	+1.7	C-3	D-3	4-14-66	31.6	32.0	+0.4
A-4	86	3-13-66	35.4	36.5	+1.1	B-4	50	4-15-66	35.5	39.1	+3.6	C-4	D-4	4-14-66	32.9	32.8	-0.1
						B-5	51	4-20-66	36.7	33.2	-3.5	C-5	E-1	5- 4-66	33.5	31.9	-1.6
						B-6	52	4-27-66	35.3	33.5	-1.8	C-6	E-2	5- 4-66	34.9	30.5	-4.4
						B-7	53	5- 5-66	36.7	41.5	+4.8	C-7	E-3	5- 4-66	34.0	30.6	-3.4
						B-8	54	5-11-66	31.9	32.8	+0.9	C-8	E-4	5- 4-66	33.5	32.5	-1.0
Current machine av.			34.8	35.1	+0.3	Current machine av.			34.7	36.0	+1.3	Current machine av.			33.2	31.8	-1.4
Machine D						Machine E						Machine F					
D-1	--	3-27-66	37.7	35.2	-2.5	E-1	37	3-23-66	36.0	33.6	-2.4	F-1	994	3-12-66	33.5	33.7	+0.2
D-2	--	3-30-66	38.9	37.3	-1.6							F-2	1152	3-13-66	35.0	36.7	+1.7
D-3	--	4- 3-66	36.4	34.3	-2.1							F-3	1264	3-14-66	35.2	37.0	+1.8
D-4	--	4- 3-66	36.2	35.0	-1.2							F-4	1392	3-15-66	34.1	34.9	+0.8
D-5	--	5-13-66	37.6	35.8	-1.8												
D-6	--	5-13-66	37.0	35.9	-1.1												
Current machine av.			37.3	35.6	-1.7	Current machine av.			36.0	33.6	-2.4	Current machine av.			34.4	35.6	+1.2
Machine G						Machine H						Machine I					
G-1	444	3-14-66	43.0	42.4	-0.6	H-1	297	3-20-66	41.5	36.1	-5.4	I-1	--	3-30-66	34.3	35.4	+1.1
G-2	445	3-22-66	41.8	40.8	-1.0	H-2	298	3-20-66	40.8	35.7	-5.1	I-2	--	4-18-66	40.0	36.6	-3.4
G-3	446	3-31-66	39.4	39.4	0.0	H-3	305	4- 6-66	40.8	39.0	-1.8	I-3	--	4-29-66	38.2	34.6	-3.6
G-4	447	4-14-66	42.1	41.8	-0.3	H-4	306	4- 6-66	37.7	34.2	-3.5	I-4	--	5-18-66	34.9	34.7	-0.2
G-5	448	4-26-66	41.5	39.6	-1.9	H-5	313	4-18-66	34.4	34.2	-0.2	I-5	--	5-19-66	36.8	35.2	-1.6
G-6	450	5- 2-66	42.6	37.8	-4.8	H-6	314	4-18-66	37.4	36.3	-1.1	I-6	--	5-20-66	37.2	35.2	-2.0
G-7	451	5- 9-66	39.6	38.5	-1.1	H-7	321	5- 5-66	39.4	34.4	-5.0	I-7	--	5-21-66	37.9	35.0	-2.9
G-8	452	5-16-66	40.6	39.8	-0.8	H-8	322	5- 5-66	38.9	34.5	-4.4						
						H-9	329	5-14-66	38.4	36.5	-1.9						
						H-10	330	5-14-66	40.1	39.2	-0.9						
Current machine av.			41.3	40.0	-1.3	Current machine av.			38.9	36.0	-2.9	Current machine av.			37.0	35.2	-1.8

Please see end of table for footnote.

TABLE XXXIII (Continued)

INSTITUTE AND MILL CONCORA FLAT CRUSH TEST RESULTS ON INDIVIDUAL ROLLS FOR APRIL AND MAY, 1966

Machine J						Machine K						Machine M					
			Concora Flat Crush, p.s.i.						Concora Flat Crush, p.s.i.						Concora Flat Crush, p.s.i.		
Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]	Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]	Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]
J-1	316	3-10-66	37.4	33.9	-3.5	K-1	761	4-14-66	40.0	40.4	+0.4	M-1	209	3-22-66	30.1	34.2	+4.1
J-2	317	3-18-66	38.9	33.8	-5.1	K-2	762	4-28-66	42.4	38.8	-3.6	M-2	210	3-30-66	32.5	38.3	+5.8
J-3	318	3-21-66	38.5	36.2	-2.3	K-3	763	5- 9-66	38.9	39.2	+0.3	M-3	211	4-12-66	28.7	27.2	-1.5
J-4	319	3-25-66	36.5	33.8	-2.7							M-4	212	4-22-66	31.3	32.0	+0.7
J-5	320	4-20-66	37.7	34.1	-3.6							M-5	213	4-26-66	32.6	32.3	-0.3
J-6	321	4-21-66	43.9	37.9	-6.0							M-6	214	5- 2-66	33.1	31.7	-1.4
J-7	322	4-28-66	37.8	35.0	-2.8							M-7	215	5- 8-66	30.7	30.8	+0.1
J-8	323	4-28-66	36.2	34.3	-1.9							M-8	216	5-15-66	28.7	27.2	-1.5
												M-9	217	5-23-66	32.6	30.5	-2.1
Current machine av.			38.4	34.9	-3.5	Current machine av.			40.4	39.5	-0.9	Current machine av.			31.2	31.6	+0.4

Machine N						Machine O						Machine P					
N-1	4	3-28-66	42.6	37.1	-5.5	O-1	5681	4- 8-66	31.3	28.4	-2.9	P-1	98	3-10-66	34.1	34.6	+0.5
N-2	256	4- 4-66	38.5	36.2	-2.3							P-2	99	3-22-66	33.8	37.2	+3.4
N-3	612	4-14-66	37.9	36.1	-1.8							P-3	100	3-28-66	35.3	36.6	+1.3
N-4	969	4-26-66	38.0	39.5	+1.5							P-4	101	4- 6-66	32.4	34.4	+2.0
N-5	47	5- 3-66	40.3	38.9	-1.4							P-5	103	4-21-66	35.8	38.0	+2.2
												P-6	104	4-28-66	36.4	40.9	+4.5
Current machine av.			39.5	37.6	-1.9	Current machine av.			31.3	28.4	-2.9	Current machine av.			34.6	37.0	+2.4

Machine Q						Machine S						Machine T					
Q-1	1524	3-17-66	31.3	29.0	-2.3	S-1	--	3-27-66	37.3	34.8	-2.5	T-1	57	3-25-66	30.2	30.2	0.0
Q-2	1525	3-17-66	30.2	31.1	+0.9	S-2	--	3-30-66	37.2	35.2	-2.0	T-2	57	4- 1-66	33.7	33.0	-0.7
Q-3	1540	4-12-66	31.4	29.8	-1.6	S-3	--	4- 3-66	39.2	36.6	-2.6	T-3	58	4- 7-66	35.5	35.9	+0.4
Q-4	1541	4-12-66	31.4	32.5	+1.1	S-4	--	4- 3-66	40.1	37.1	-3.0	T-4	59	4-12-66	34.0	33.4	-0.6
Q-5	1548	5- 5-66	32.8	32.2	-0.6	S-5	--	5- 9-66	40.4	37.1	-3.3	T-5	60	4-20-66	34.3	31.4	-2.9
Q-6	1549	5- 5-66	30.1	28.8	-1.3	S-6	--	5- 9-66	40.2	38.3	-1.9	T-6	61	4-27-66	35.2	34.6	-0.6
						S-7	--	5-11-66	38.9	36.2	-2.7	T-7	62	5- 5-66	32.5	35.2	+2.7
						S-8	--	5-11-66	39.0	36.8	-2.2	T-8	63	5-11-66	32.5	32.4	-0.1
Current machine av.			31.2	30.6	-0.6	Current machine av.			39.0	36.5	-2.5	Current machine av.			33.5	33.3	-0.2

Machine U						Machine V						Machine W					
U-1	546	3-12-66	34.3	38.6	+4.3	V-1	97	3- 9-66	32.4	34.0	+1.6	W-1	1	3- 9-66	28.8	36.1	+7.3
U-2	547	3-19-66	39.0	41.5	+2.5	V-2	102	4-12-66	32.3	34.9	+2.6	W-2	2	3- 9-66	25.9	32.7	+6.8
U-3	548	3-26-66	36.7	42.4	+5.7							W-3	3	5- 3-66	26.8	28.8	+2.0
U-4	549	4- 5-66	36.2	39.0	+2.8							W-4	4	5- 4-66	29.4	30.3	+0.9
U-5	550	4-13-66	34.9	35.6	+0.7												
U-6	551	4-22-66	34.4	39.1	+4.7												
U-7	552	4-29-66	36.6	36.7	+0.1												
U-8	553	5- 6-66	33.8	38.2	+4.4												
U-9	554	5-13-66	35.6	37.1	+1.5												
Current machine av.			35.7	38.7	+3.0	Current machine av.			32.3	34.4	+2.1	Current machine av.			27.7	32.0	+4.3

Please see end of table for footnote.

TABLE XXXIII (Continued)

INSTITUTE AND MILL CONCORA FLAT CRUSH TEST RESULTS ON INDIVIDUAL ROLLS FOR APRIL AND MAY, 1966

Machine X						Machine Y						Machine Z					
			Concora Flat Crush, p.s.i.						Concora Flat Crush, p.s.i.						Concora Flat Crush, p.s.i.		
Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]	Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]	Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]
X-1	622	1-16-66	41.2	41.2	0.0	Y-1	10	3-17-66	36.2	36.1	-0.1	Z-1	2	3-12-66	33.4	36.1	+2.7
X-2	623	1-27-66	40.0	38.5	-1.5	Y-2	11	3-20-66	38.3	38.1	-0.2						
X-3	624	3-16-66	42.7	39.4	-3.3	Y-3	12	3-27-66	35.4	35.1	-0.3						
						Y-4	13	4- 5-66	39.2	36.2	-3.0						
						Y-5	14	4-14-66	37.7	34.9	-2.8						
						Y-6	15	4-18-66	35.4	33.8	-1.6						
						Y-7	16	4-24-66	38.9	35.6	-3.3						
						Y-8	17	5- 5-66	35.2	32.9	-2.3						
						Y-9	18	5-11-66	33.7	33.0	-0.7						
Current machine av.			41.3	39.7	-1.6	Current machine av.			36.7	35.1	-1.6	Current machine av.			33.4	36.1	+2.7

Machine AA						Machine BB						Machine CC					
AA-1	129	4-27-66	32.5	35.3	+2.8	BB-1	416	3-10-66	37.4	28.0	-9.4	CC-1	680	3-21-66	34.6	33.5	-1.1
AA-2	130	4-27-66	32.8	35.3	+2.5	BB-2	417	3-14-66	35.6	33.8	-1.8	CC-2	681	3-31-66	35.5	36.3	+0.8
AA-3	131	4-27-66	33.5	34.2	+0.7	BB-3	418	3-15-66	36.0	32.3	-3.7	CC-3	682	4- 4-66	36.5	37.5	+1.0
AA-4	132	4-27-66	34.4	34.6	+0.2	BB-4	419	3-25-66	31.2	33.0	+1.8	CC-4	683	4-12-66	37.7	36.2	-1.5
						BB-5	420	4-12-66	34.2	32.7	-1.5	CC-5	684	4-20-66	38.2	39.7	+1.5
						BB-6	421	4-15-66	35.9	36.0	+0.1	CC-6	685	4-29-66	37.6	38.1	+0.5
						BB-7	422	4-20-66	34.1	32.8	-1.3	CC-7	686	5-12-66	35.9	38.8	+2.9
						BB-8	423	5- 2-66	32.5	30.7	-1.8	CC-8	687	5-19-66	38.3	39.0	+0.7
Current machine av.			33.3	34.8	+1.5	Current machine av.			34.6	32.4	-2.2	Current machine av.			36.8	37.4	+0.6

Machine DD						Machine EE					
DD-1	303	3-21-66	32.8	38.6	+5.8	EE-1	209	3-22-66	28.4	32.4	+4.0
DD-2	304	3-21-66	32.3	38.6	+6.3	EE-2	210	3-31-66	32.9	38.9	+6.0
DD-3	311	4- 8-66	34.1	40.4	+6.3	EE-3	211	4-11-66	35.8	34.1	-1.7
DD-4	312	4- 8-66	33.7	38.9	+5.2	EE-4	212	4-22-66	30.7	33.4	+2.7
DD-5	319	4-22-66	29.9	40.8	+10.9	EE-5	213	4-26-66	30.8	32.9	+2.1
DD-6	320	4-22-66	30.0	40.1	+10.1	EE-6	214	5- 2-66	31.6	32.8	+1.2
						EE-7	215	5- 7-66	33.7	32.0	-1.7
						EE-8	216	5-13-66	30.4	31.2	+0.8
						EE-9	217	5-22-66	34.8	33.4	-1.4
Current machine av.			32.1	39.6	+7.5	Current machine av.			32.1	33.5	+1.4

[a] This difference is the amount in p.s.i. units by which the mill result is higher or lower than the Institute result.

TABLE XXXIV

PART I: A COMPARATIVE SUMMARY FOR EACH MACHINE OF THE CONCORA FLAT CRUSH AVERAGES BASED ON INSTITUTE DATA AND THOSE BASED ON MILL DATA FOR THE CURRENT PERIOD (APRIL AND MAY, 1966)

Machine code	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE
Number of rolls compared	4	8	8	6	1	4	8	10	7	8	3	0	9	5	1	6	6	0	8	8	9	2	4	3	9	1	4	8	8	6	9
Concora flat crush, p.s.i.																															
Current machine av. (Institute)[a]	34.8	34.7	33.2	37.3	36.0	34.4	41.3	38.9	37.0	38.4	40.4	--	31.2	39.5	31.3	34.6	31.2	--	39.0	33.5	35.7	32.3	27.7	41.3	36.7	33.4	33.3	34.6	36.8	32.1	32.1
Current machine av. (Mill)[a]	35.1	36.0	31.8	35.6	33.6	35.6	40.0	36.0	35.2	34.9	39.5	--	31.6	37.6	28.4	37.0	30.6	--	36.5	33.3	38.7	34.4	32.0	39.7	35.1	36.1	34.8	32.4	37.4	39.6	33.5
Average difference[b]	+0.3	+1.3	-1.4	-1.7	-2.4	+1.2	-1.3	-2.9	-1.8	-3.5	-0.9	--	+0.4	-1.9	-2.9	+2.4	-0.6	--	-2.5	-0.2	+3.0	+2.1	+4.3	-1.6	-1.6	+2.7	+1.5	-2.2	+0.6	+7.5	+1.4
Maximum difference[c]	+1.1	+4.8	-4.4	-2.5	-2.4	+1.8	-4.8	-5.4	-3.6	-6.0	-3.6	--	+5.8	-5.5	-2.9	+4.5	-2.3	--	-3.3	-2.9	+5.7	+2.6	+7.3	-3.3	-3.3	+2.7	+2.8	-9.4	+2.9	+10.9	+6.0

PART II: A TABULATION FOR EACH MACHINE OF THE AVERAGE DIFFERENCE (PERCENT) BETWEEN THE CONCORA FLAT CRUSH BASED ON INSTITUTE DATA AND THAT BASED ON MILL DATA

Average difference, %[d]																															
Current report (April-May)	+0.9	+3.7	-4.2	-4.6	-6.7	+3.5	-3.1	-7.5	-4.9	-9.1	-2.2	--	+1.3	-4.8	-9.3	+6.9	-1.9	--	-6.4	-0.6	+8.4	+6.5	+15.5	-3.9	-4.4	+8.1	+4.5	-6.4	+1.6	+23.4	+4.4
118th Report (Feb.-March)	+3.3	-1.5	+1.5	+0.3	+10.1	-1.9	-2.3	-0.5	+2.3	-7.2	-0.2	--	+8.0	-2.2	-2.4	+5.9	-2.1	--	+0.8	-3.2	+7.0	+9.5	--	+1.8	-2.5	--	+4.2	-1.1	+3.4	+27.7	+9.0
117th Report (Dec.-Jan.)	+1.5	-3.4	-4.2	-1.4	--	--	+0.5	-2.6	+0.6	-7.6	+1.5	--	0.0	-1.9	-0.3	+1.9	+0.6	--	-2.6	+3.3	+4.2	--	--	+5.1	-1.4	--	+9.3	-3.9	+2.3	+33.9	+1.0

[a] Comparisons based on current machine average include only those rolls for which mill data were submitted.

[b] Average difference is the difference between the current machine average based on Institute test results and that based on mill test results with the Institute test results used as the reference. See Table XXXIII.

[c] Maximum difference is the greatest difference encountered in comparing Institute and mill test averages for individual rolls. See Table XXXIII.

[d] Average difference (percent) is computed by dividing the average difference in p.s.i. (shown above in Part I of this table) by the Institute current machine average and multiplying the result by 100.

In Table XXXV a summary of the agreement between Institute and mill Concora flat crush data is given for the current period; comparative data from the previous bimonthly period are also included. The data shown for the current period indicate that agreement between Institute and mill Concora data was not as good as the agreement for the previous period.

TABLE XXXV

SUMMARY OF AGREEMENT BETWEEN INSTITUTE AND MILL
CONCORA FLAT CRUSH DATA

Average Percentage Difference Between Institute and Mill Concora Flat Crush Test Results[a]	Percentage of All Machines Included Within the Indicated Range	
	Previous Period[b]	Current Period[c]
± 1.0	14.3	6.9
± 2.5	57.1	20.7
± 5.0	71.4	58.6
± 10.0	92.9	93.1
Max.	100.0[d]	100.0[e]

[a]The average obtained at the Institute was used as the reference in the calculation of the percentage differences.

[b]February and March, 1966.

[c]April and May, 1966.

[d]Maximum percentage difference was +27.7.

[e]Maximum percentage difference was +23.4.

Note: Lack of conditioning after fluting may be responsible for the large maximum differences reported above in Notes [d] and [e].

THE INSTITUTE OF PAPER CHEMISTRY

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